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**Industrial communication networks – High availability automation networks –
Part 2: Media Redundancy Protocol (MRP)**

**Réseaux de communication industriels – Réseaux de haute disponibilité pour
l'automatisation –
Partie 2: Protocole de redondance du support (MRP)**



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This third edition cancels and replaces the second edition published in 2016. This edition constitutes a technical revision.

This edition includes the following significant technical changes with respect to the previous edition:

- a) improvements for the Continuity Check Protocol,
- b) introduction of further specifiers for the rings, the interconnection links, and the device roles,
- c) extensions and information on the use of baudrates smaller than 100 Mbit/s,
- d) information on using MRP together with scheduling and shaping mechanisms,
- e) introduction of an MRP Interconnection profile for a 30 ms reconfiguration time.

The text of this International Standard is based on the following documents:

| | |
|---------------|------------------|
| Draft | Report on voting |
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Full information on the voting for the approval of this International Standard can be found in the report on voting indicated in the above table.

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This International Standard is to be read in conjunction with IEC 62439-1.

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INTRODUCTION

The IEC 62439 series specifies relevant principles for high availability networks that meet the requirements for industrial automation networks.

In the fault-free state of the network, the protocols of the IEC 62439 series provide ISO/IEC/IEEE 8802-3 (IEEE Std 802.3™) compatible, reliable data communication, and preserve determinism of real-time data communication. In cases of fault, removal, and insertion of a component, they provide deterministic recovery times.

These protocols retain fully the typical Ethernet communication capabilities as used in the office world, so that the software involved remains applicable.

The market is in need of several network solutions, each with different performance characteristics and functional capabilities, matching diverse application requirements. These solutions support different redundancy topologies and mechanisms which are introduced in IEC 62439-1 and specified in the other Parts of the IEC 62439 series. IEC 62439-1 also distinguishes between the different solutions, giving guidance to the user.

The IEC 62439 series follows the general structure and terms of the IEC 61158 series.

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